



# **NORTHEAST MISSISSIPPI REGIONAL WATER SUPPLY DISTRICT – FULTON INTAKE**

**FULTON, MISSISSIPPI**

***SOURCE WATER ASSESSMENT***

*Prepared by*

**Tennessee Valley Authority  
Chattanooga, Tennessee  
June 2004**



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## **INTRODUCTION**

This document and accompanying maps, compact disk, and supporting report were prepared by the Tennessee Valley Authority (TVA) in support of the Mississippi Department of Environmental Quality (MDEQ), Source Water Assessment Program. This source water assessment package was prepared to comply with the U.S. Safe Drinking Water Act Amendments of 1996 (P.L. 104-182) and the subsequent guidance document prepared by the U.S. Environmental Protection Agency (EPA).

The information and data used in the preparation of this source water assessment for the Northeast Mississippi Regional Water Supply District's surface water intake on the Tombigbee River at Fulton, MS were obtained from existing sources and databases, relying heavily on EPA's Envirofacts website, Office of Management and Budget (OMB) and the Center for Public Data Access' Right-to-Know website, MDEQ's databases, TVA's databases, and the U.S. Department of Agriculture's electronic information system. A complete listing of these information sources is presented at the end of the document.

This source water assessment consists of five components: 1) this document, the purpose of which is to integrate all of the components; 2) a geographic information system (GIS) produced 7.5 minute topographic map of the source water protection area (SWPA); 3) a map delineating the Tombigbee River watershed; 4) a compact disc containing the GIS ArcView project file used to produce the SWPA map; and 5) a report on the methodology used to determine the hydraulic time of water travel for the Tombigbee River. The specifics and how to use each of these components are presented later in this document.

## **THE TOMBIGBEE RIVER BASIN**

The Tombigbee River basin is located in northeastern Mississippi and parts of western Alabama. Its drainage area is approximately 6,100 square miles in Mississippi and an additional 7,600 square miles in Alabama. The Tombigbee River originates north of Fulton, Mississippi, flowing to the southeast where it joins the Alabama River to form the Mobile River. The Mobile River then flows into Mobile Bay and out into the Gulf of Mexico. The Mobile River is the sixth-largest basin in the United States by area and the fourth-largest by streamflow.

The Mississippi section of the Tombigbee River basin is approximately 190 miles long and 48 miles wide. This portion of the basin has about 10,750 linear miles of rivers and streams and covers parts of 19 counties. The basin drains 6,100 of Mississippi's 48,434 square miles, or approximately 12.6% of the state. The topography of the Tombigbee River watershed is primarily gently rolling hills. The northeastern and southwestern portions of the basin are characterized by a forested landscape, with the central region utilized for farming and agricultural purposes.

The Tombigbee River basin is one of nine major watersheds in Mississippi. The basin's average annual flow leaving Mississippi is approximately 30,200 cubic feet per second (cfs). A major feature in the basin is the Tennessee-Tombigbee Waterway, which joins the Tennessee River and parts of the original Tombigbee River through dams and man-made canals, to serve as a navigation route between the Gulf of Mexico and the central United States.

### **Hydrologic Overview**

The Tombigbee River Basin lies in a relatively wet region in the United States. The Gulf of Mexico and the Caribbean Sea, located only a short distance to the south, are major sources of moisture. Since there is no significant barrier between the Tombigbee River basin and the Gulf of Mexico, prevailing winds from the south and west bring this moisture across the basin. Primarily in the fall

and late summer, the region is subject to rainfall from dissipating hurricanes moving across the southeastern United States.

The 30-year average annual precipitation for the Tombigbee River basin ranges from 56 to 58 inches per year. Monthly averages in Fulton, Mississippi vary from 3.49 to 6.58 inches. March is typically the wettest month, while the driest months are normally August through October.

### **Flood Potential**

The major flood season in the Tombigbee River Basin is December through April, with the highest frequency of storms occurring in March. Widespread cyclonic storms with heavy persistent rainfall occur more frequently during the winter season through early spring. The worst winter storms can cover the area for several days. It is not unusual for one large winter storm to be followed by another, even larger storm, three to five days later. Conversely, the worst summer storms tend to be short, intense, and relatively localized, resulting from thunderstorms or decadent tropical storms that have moved inland. These summer storms generally affect the majority of the basin.

### **Tennessee-Tombigbee Waterway System and Uses**

The Tennessee-Tombigbee Waterway is controlled by a series of locks operated by the United States Army Corps of Engineers. A schematic of the waterway is shown in Figure 1. The Tenn-Tom's objectives are to provide for commerce and trade, industrial development, recreation and tourism, and environmental quality. The Waterway was opened for commercial traffic in January of 1985.

The Tennessee-Tombigbee Waterway provides a navigable channel for its entire length from the northern end of Pickwick Lake (on the Tennessee River) to Demopolis, AL, where it rejoins the Tombigbee River. The channel depth is nine feet, with a width of 300 feet along its 234 mile length. The ten locks in the series measure 110 feet by 600 feet, with a total system lift of 341 feet.

In 1998, commercial barge traffic on the Tenn-Tom was approximately 10 million tons, with steady growth being shown since its opening in 1985. In terms of tonnage, the principal industries served by the Waterway are forestry products (44%), coal (27%) and construction materials (14%). Maintenance and operation of the Tennessee-Tombigbee Waterway is the joint responsibility of the U.S. Army Corps of Engineers, the U.S. Coast Guard, while the Tennessee-Tombigbee Waterway Development Authority works to promote the development of the Waterway and its economic and trade potential.

### **Water Quality**

The Mississippi Department of Environmental Quality's Office of Pollution Control conducts a surface water monitoring program in order to develop and maintain an understanding of water quality in the State, to gather the needed data to accurately describe the State's water quality and determine the causes and effects of any changes in the water quality, to support the State's regulatory water quality programs and to measure how well the State's pollution control programs are working. Mississippi's Surface Water Monitoring Program includes fixed monitoring stations, special studies, regulatory compliance monitoring, volunteer collections, laboratory support, quality assurance/quality control measures, and data sharing, management and reporting.

The water quality in the Tombigbee River was evaluated in detail in the "Tombigbee River Basin Status Report – 1998," produced by the Mississippi Department of Environmental Quality (MDEQ). Although only a small portion of the basin has been monitored (approximately 240 miles), a large part of the basin is considered to be of concern based on the local land use practices. Due to the frequency of farming and other agricultural industry in the watershed, the main causes of water quality issues are believed to be nutrients, siltation, pathogens and organic enrichment derived from nonpoint sources. Nonpoint source pollutants, which can contribute as much as five times more DO-consuming wastes than point sources, result from a variety of activities related to agriculture (runoff from fertilizer and pesticide applications, erosion and animal wastes), land

development and urbanization (storm sewers, combined storm and sanitary sewer overflows, and septic systems).



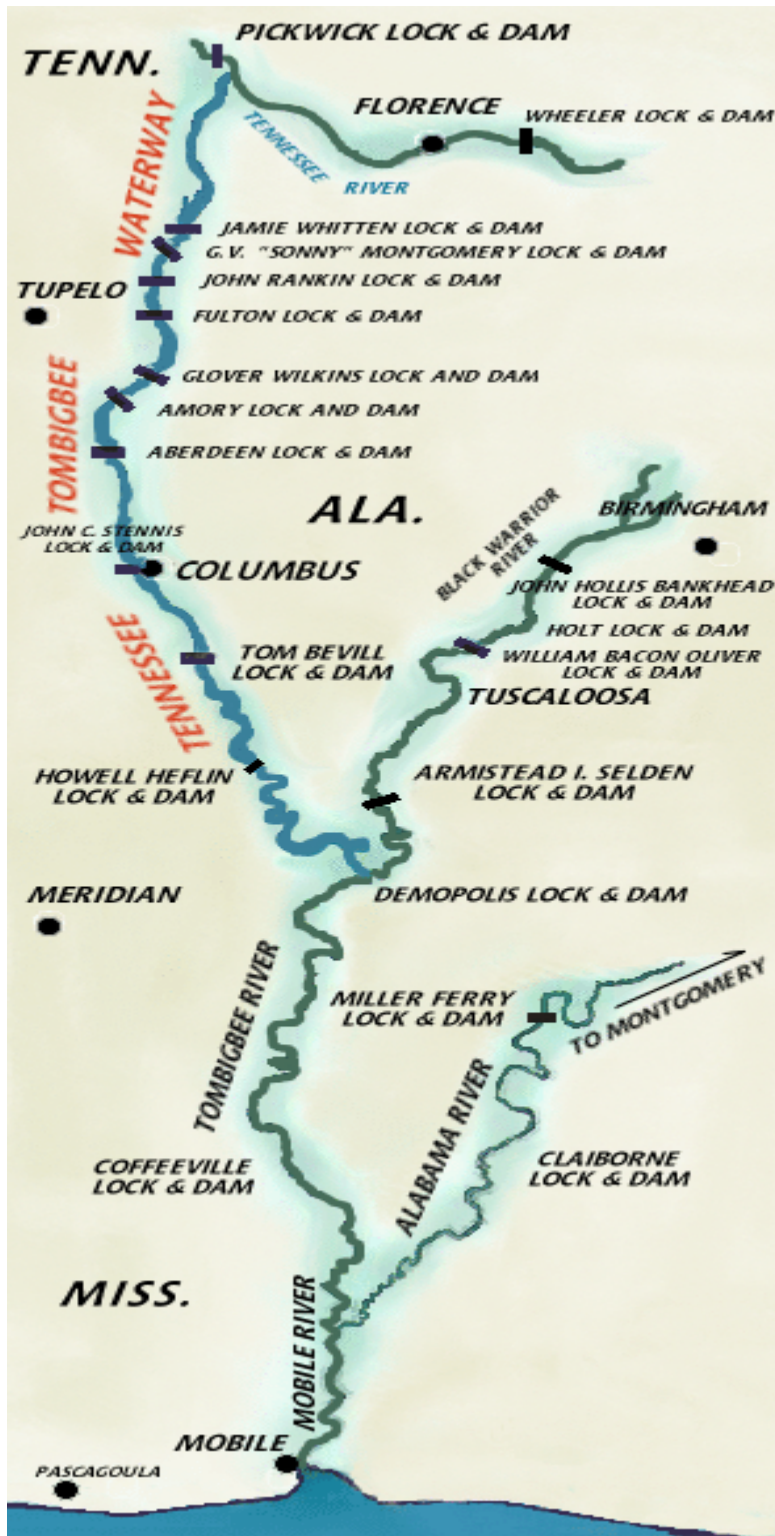


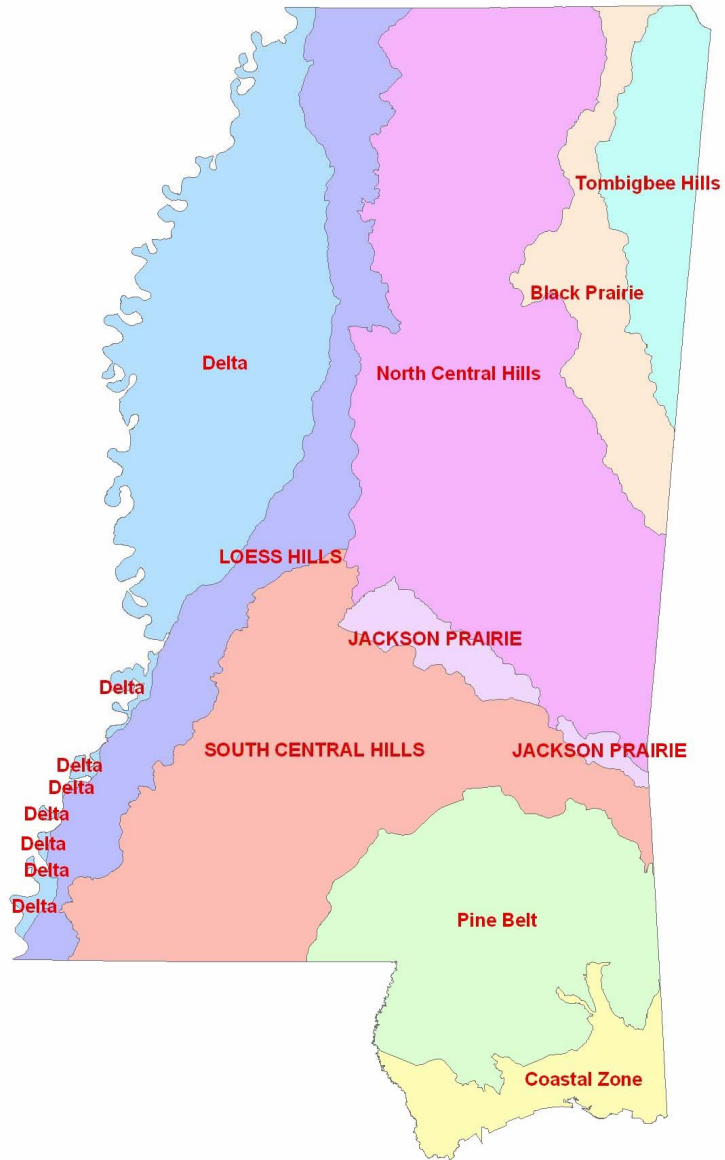
Figure 1: Tennessee-Tombigbee Waterway Schematic

### **Physiography**

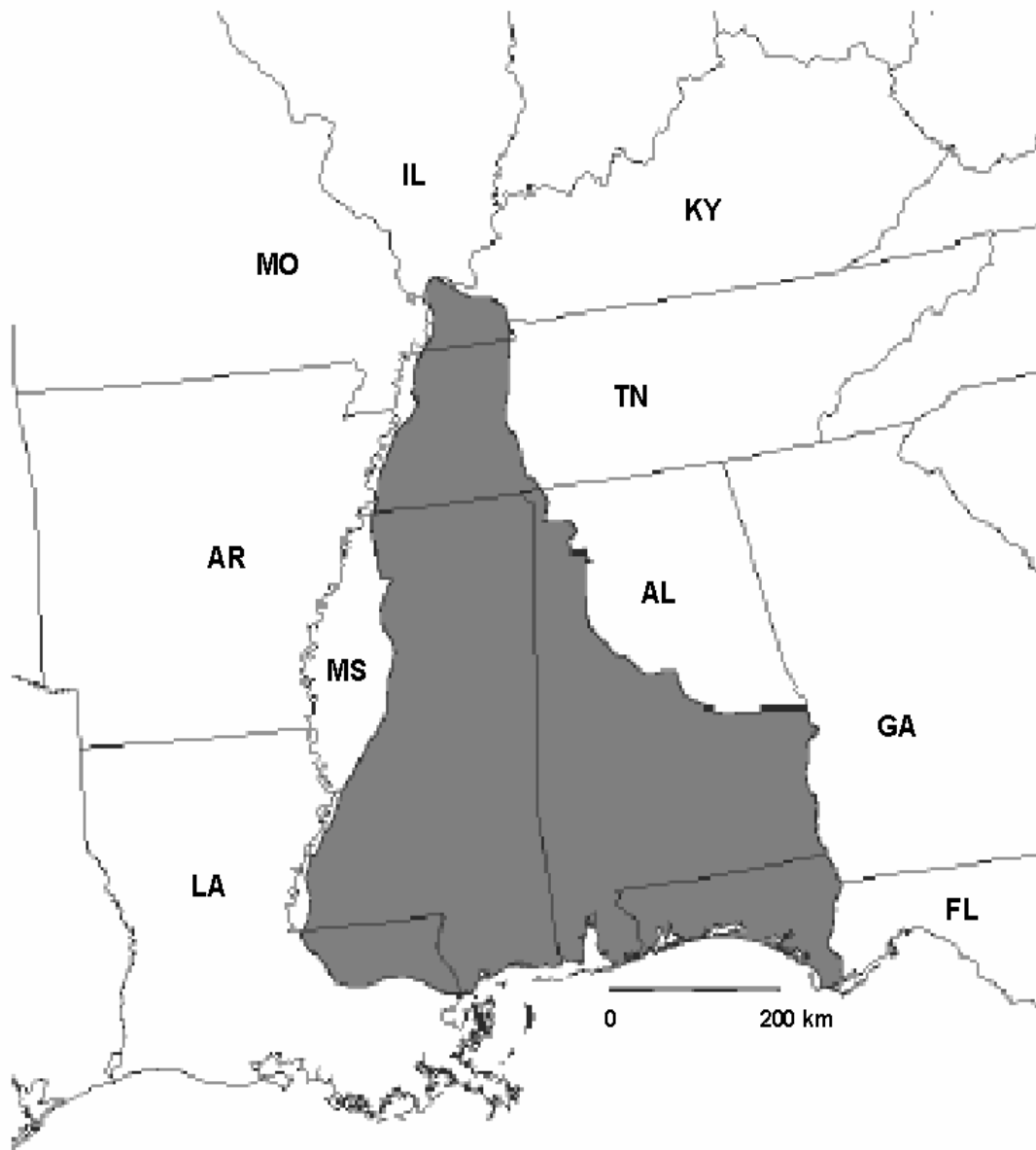
Physiography concerns the structure and type of underlying geologic formations, as well as the local geologic and climatic forces that shape the landscape. Along with several other factors, an area's physiography determines the natural water quality conditions of local streams, rivers and lakes. The source water protection area is dominated by two physiographic regions: the Tombigbee Hills and Black Prairie (Figure 2), which is part of the larger physiographic region, the East Gulf Coastal Plain (Figure 3).

The East Gulf Coastal Plain in its entirety extends from the Florida Parishes of Louisiana over most of Mississippi, parts of western Tennessee and Kentucky, the southwestern two-thirds of Alabama and Florida's western panhandle. The East Gulf Coastal Plain is characterized by a flat to rolling topography, which is broken by numerous streams and rivers. In the state of Mississippi, the East Gulf Coastal Plain's elevation range is from sea level at the coast to 806 feet above sea level at Woodall Mountain. Woodall Mountain is located in the Tombigbee Hills region of the East Gulf Coastal Plain. The Black Prairie region of the East Gulf Coastal Plain lies west of the Tombigbee Hills and is a fertile, narrow, crescent-shaped area characterized by a lowland topography and few trees. All rivers in this region drain to the Gulf of Mexico, including those in the Coastal Streams, Pearl River, Pascagoula River and Tombigbee River watersheds.

Many species of pine dominate the natural vegetation in the East Gulf Coastal Plain. Originally, longleaf and slash pine covered the southern part of this physiographic region, while shortleaf pine mixed with hardwoods enveloped the north. Loblolly pine and hardwoods were often found in damp areas, while bottomland hardwood forests were located in extensive lowland drainages. Under present-day land use practices, many of the bottomland hardwood forests have been cleared for agricultural use and much of the original longleaf pine and upland hardwoods have been cleared and replanted with loblolly or slash pine.



**Figure 2: Physiographic Map Illustrating Nine Regions in Mississippi**



**Figure 3: Physiographic Map Illustrating the East Gulf Coastal Plain**

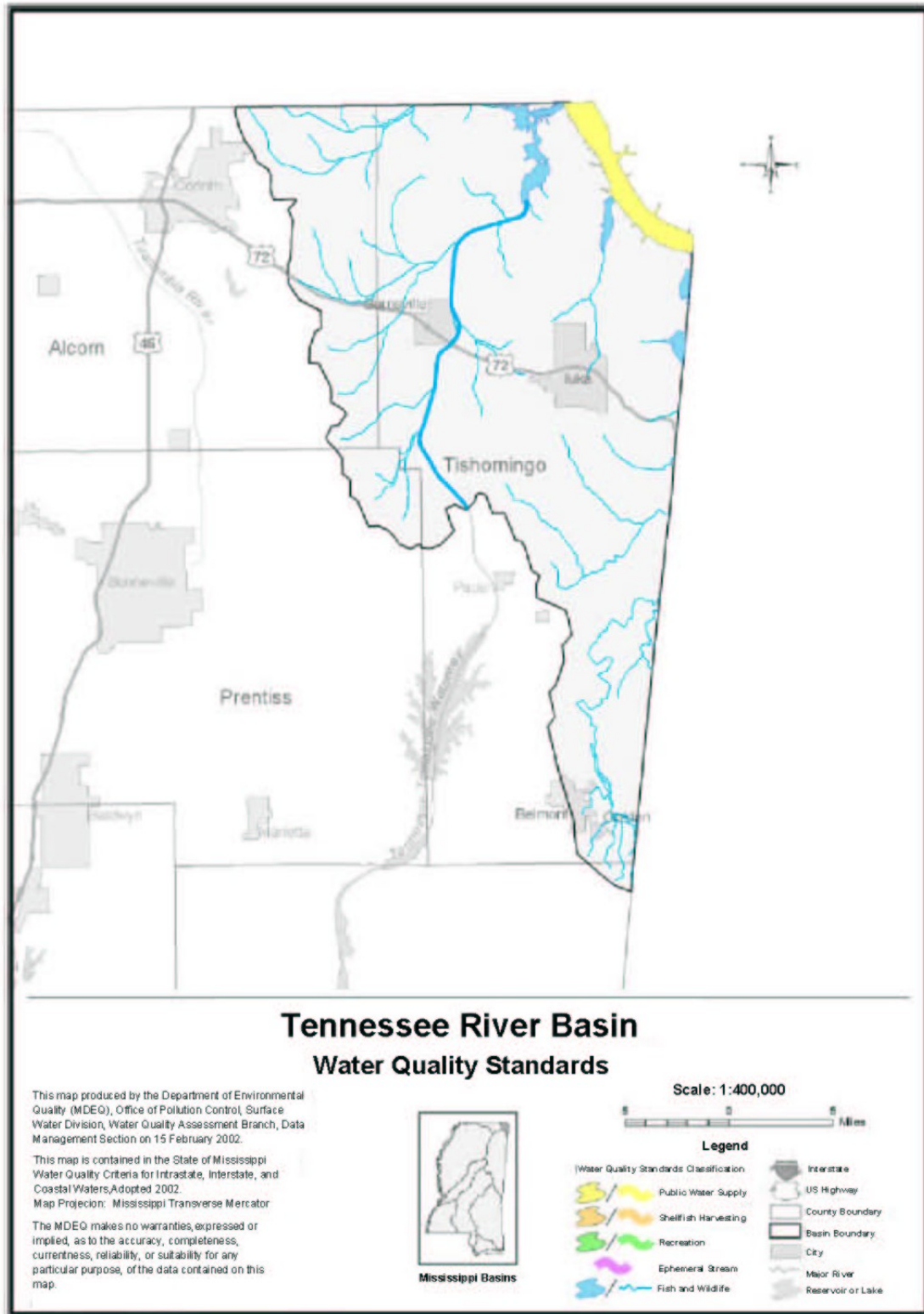
## **NORTHEAST MISSISSIPPI REGIONAL WATER SUPPLY DISTRICT, WATERSHED DESCRIPTION**

The Northeast Mississippi Regional Water Supply District's water intake is located on the Tombigbee River in Fulton, Mississippi, within the Upper Tombigbee Watershed. The drainage area upstream of the intake to the upstream boundary of the Upper Tombigbee Watershed (HUC 03160101) covers 594 square miles and is illustrated in the watershed delineation map, entitled "Area of Upper Tombigbee Watershed Upstream of the Fulton Water Intake," accompanying this report. The watershed boundaries on this map were produced using the state of Mississippi's 8 digit hydrologic unit code (HUC) by TVA's Geographic Information & Engineering (GI&E) facility in Chattanooga, Tennessee.

### **Water Use Classification**

The state of Mississippi has established water use classifications for its inter- and intrastate waters. Use classifications apply water quality criteria in order to protect existing water quality at the time the classification was implemented, and to upgrade or enhance water quality in the state of Mississippi. Use classifications listed by the state of Mississippi include: public water supply, shellfish harvesting, recreation, fish and wildlife, and ephemeral stream. All state waters that are not specifically classified by the State are assumed to be listed as fish and wildlife.

The Tombigbee River, in the vicinity of the Northeast Mississippi Regional Water Supply District, is classified by the state of Mississippi as suitable for recreation and fish and wildlife (see Figure 4).



**Figure 4: Tombigbee River Basin Water Quality Standards Classification**

### **Soils / Land Use**

The Northeast Mississippi Regional Water Supply District's SWPA has soils classified by the U.S. Department of Agriculture as Kirkville-Mantachie soils in the floodplain and Smithdale soils in the uplands. In general, the soils and topography of this region are in an early stage of development

The floodplain soils, the Kirkville and Mantachie, are respectively moderately well drained and somewhat poorly drained loamy soils found along the Tombigbee River. The Kirkville soils are found along stream levees and consist of a sandy loam surface layer and a loam or silt loam subsoil. These soils have gray mottles within 24 inches of the soil surface due to frequent saturation. The Mantachie soils are found in low-lying area away from old stream channels and consist of a loam surface layer and subsoil. They are primarily gray in color within 20 inches of the soil surface. Both of these soil types are frequently flooded, but are suitable for pasture and crop applications when protected from flooding.

The upland soils within the Source Water Protection Area are dominated by soils in the Smithdale series. These soils are well drained loamy soils found on ridges and steep side slopes. These soils consist of a fine sandy loam surface layer, loam to sandy clay in the upper subsoil, and sandy loam in the lower subsoil. Due to the steep topography where Smithdale soils are usually found, those areas are primarily used for woodland, and have a high potential for woodland wildlife habitat.

Land use data for the Tombigbee River watershed in the Source Water Protection Area is shown in Figure 5 and was obtained from color infrared photography. In general the watershed is approximately 48 percent forested, 26 percent cropland/pasture, 11 percent wetland, and the remainder open water, residential, rangeland, right-of-way, commercial, industrial and disturbed land.

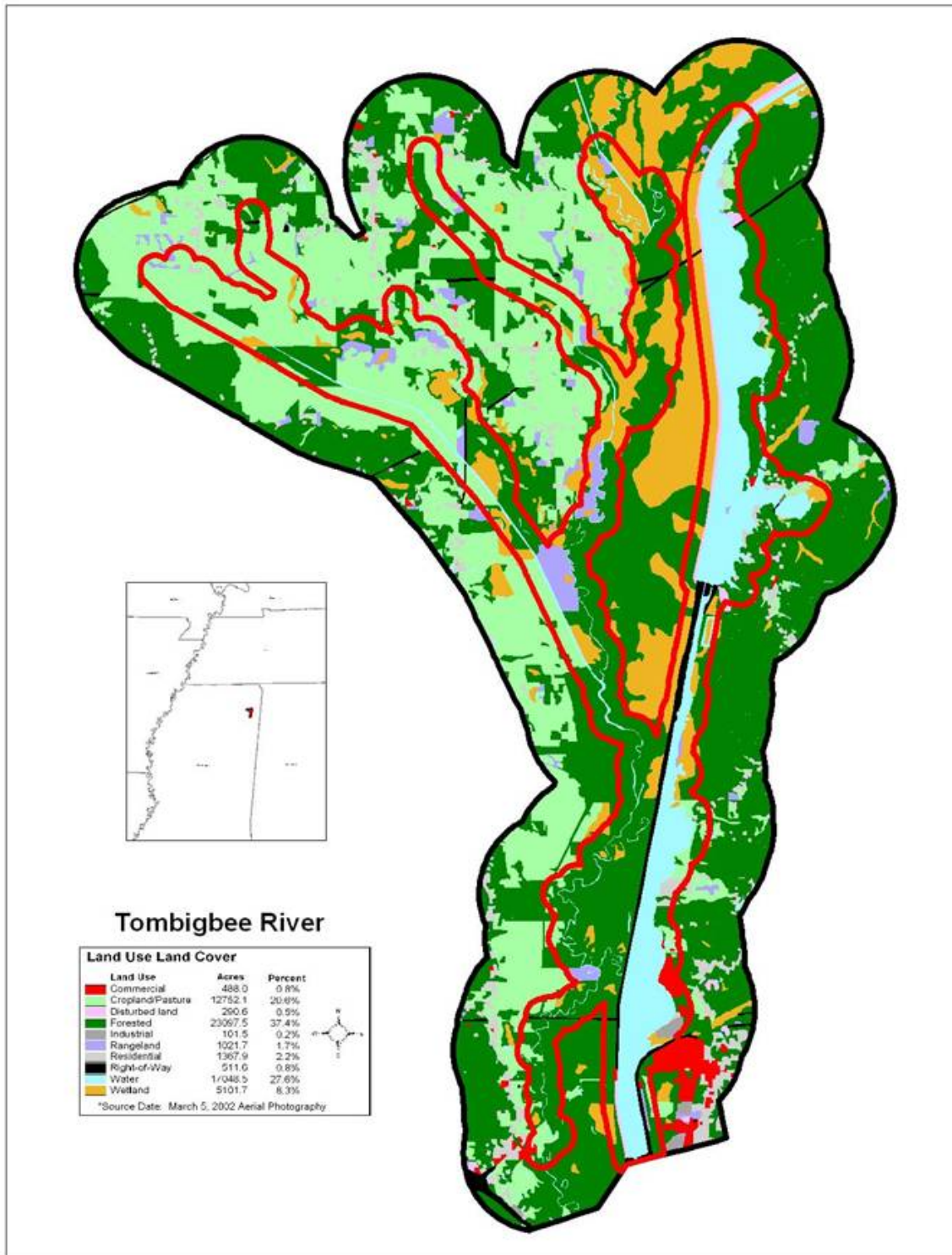


Figure 5: Tombigbee River Depicting Land Use Coverage, 2002



### **The Source Water Protection Area (SWPA)**

For purposes of this source water assessment, the SWPA is defined as a zone extending ¼ mile downstream of the intake and 15 miles upstream of the intake. This “critical area” also includes a 1000-foot buffer from the water’s edge on each side of the river, and where a known or suspected contaminant exists within 1500 feet of the water’s edge, the buffer shall be extended to include such areas. Where a significant tributary enters the SWPA within the 15-mile segment upstream of the intake, the SWPA also extends up the tributary for 1 mile and includes the 1000-foot buffer on each side.

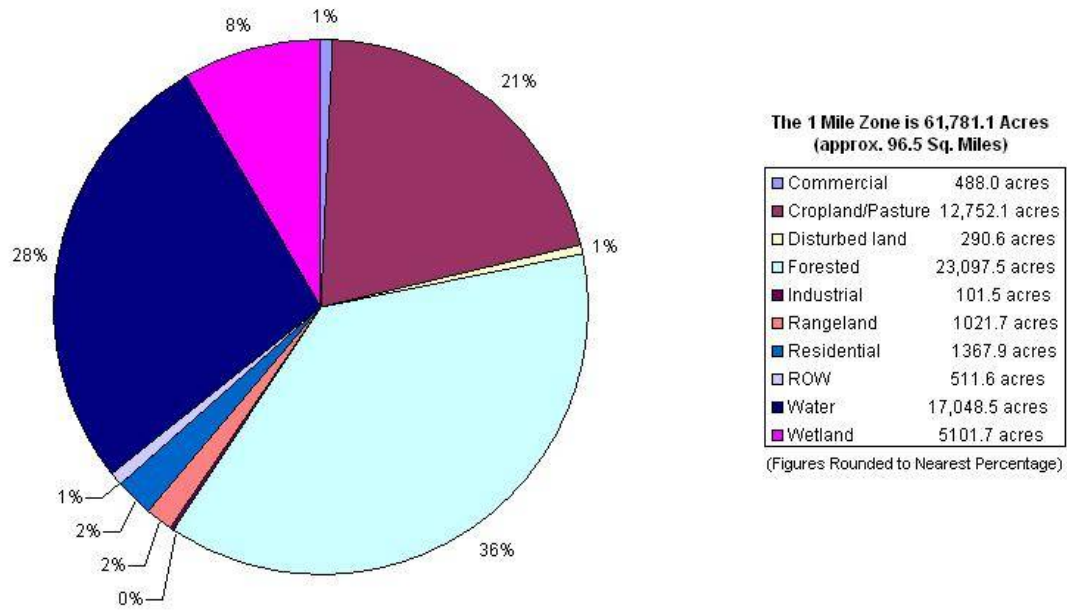
In developing the land use/land cover data for the SWPA, the TVA elected to extend this coverage to one mile from the water’s edge. This was done to further assist the water supply in the development of its source water protection plan. Land use/land cover data for the Northeast Mississippi Regional Water Supply District SWPA and the one mile zone from the water’s edge is presented in Figure 6 and the land use/land cover data for the SWPA (without the mile buffer zone) is displayed in Figure 7. The non-aquatic land cover in these areas is predominantly forest, followed by cropland/pasture, wetlands, and small percentages of other land uses.

Within the SWPA, potential sources of contamination have been identified using the databases previously mentioned. These sources include such things as the National Pollutant Discharge Elimination System (NPDES) permitted discharges, hazardous waste facilities, petroleum storage sites, and bridges. These potential sources and associated contaminants (if available) are shown in Appendix A.

Also included are the 2001 and 2002 agricultural chemical usage summaries for the counties in the SWPA. This information is presented in Appendix B.

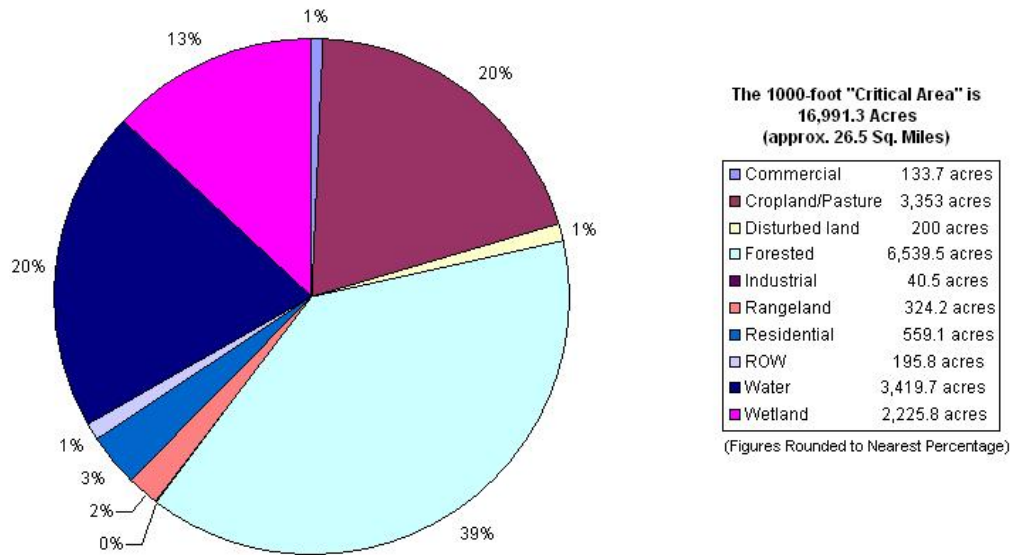
The SWPA and the locations of the potential sources of contamination are shown on the 7.5 minute topographical map accompanying this document. The map also shows land use for one mile out from the shoreline, including the SWPA. The map, locations of the potential sources of contamination, and the information in Appendix A can also be viewed from the compact disc accompanying this document. The CD contains the GIS project file which was used to generate the information. It was created using ArcView 3.2 software manufactured by ESRI, Inc. Using this software enables the addition, deletion, or other changes to be made to the data sets which generates the map attributes. In order to update data sets or change the project file, ArcView or compatible software is required. Since the CD containing this information is in read-only format, the files must be copied from the CD (placed on a computer, etc.) in order to update or change any project (.apr) files. Documentation and instructions regarding the use of these programs are presented in Appendix C.

**Fulton Intake 1 Mile Zone Including SWPA Land Use / Land Cover**



**Figure 6: Land Use/Land Cover for Fulton Intake SWPA and the 1-Mile Zone**

**Fulton Intake SWPA (1000 ft Boundary) Land Use / Land Cover**



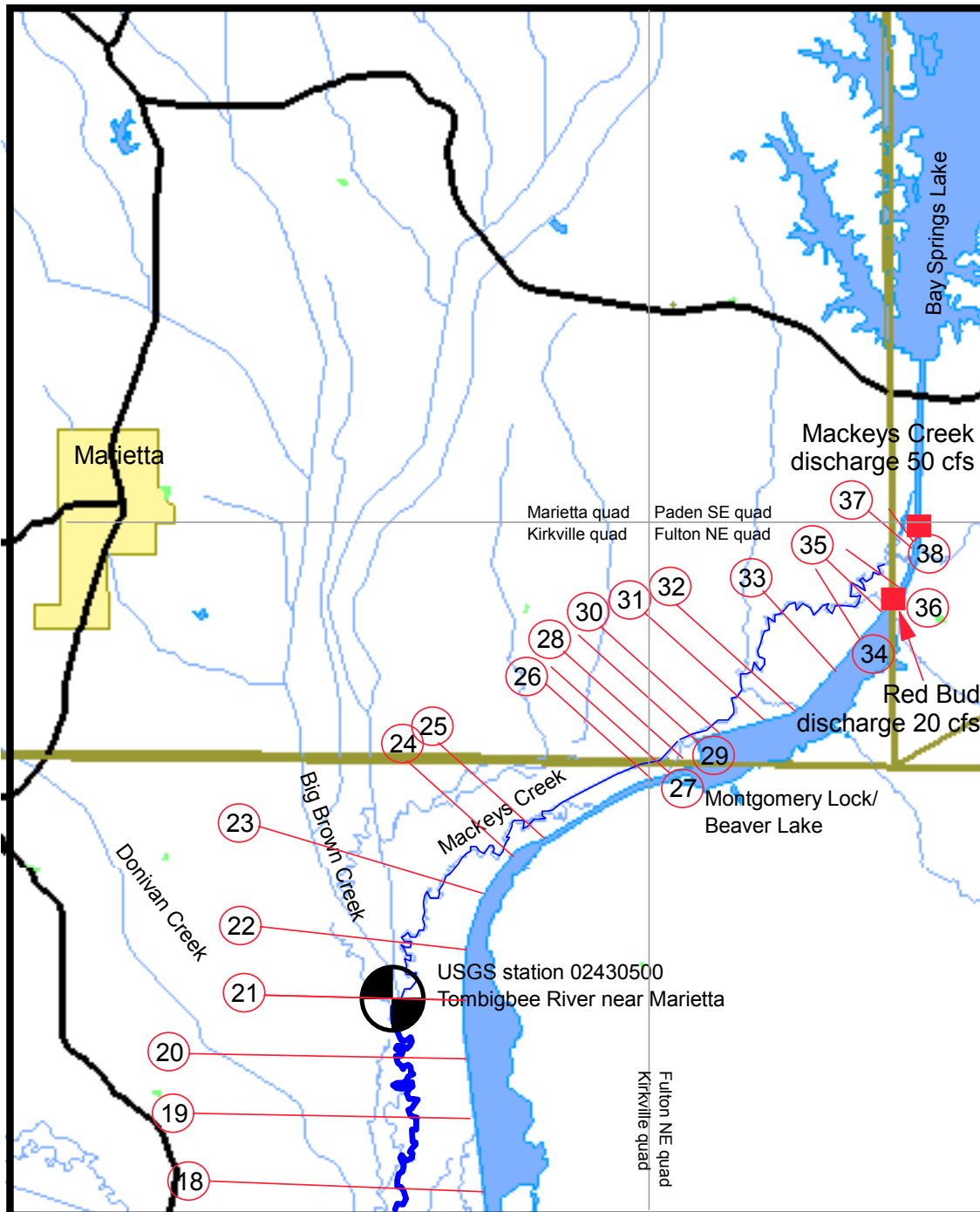
**Figure 7: Land Use / Land Cover for Fulton Intake SWPA**

### **Time of Travel**

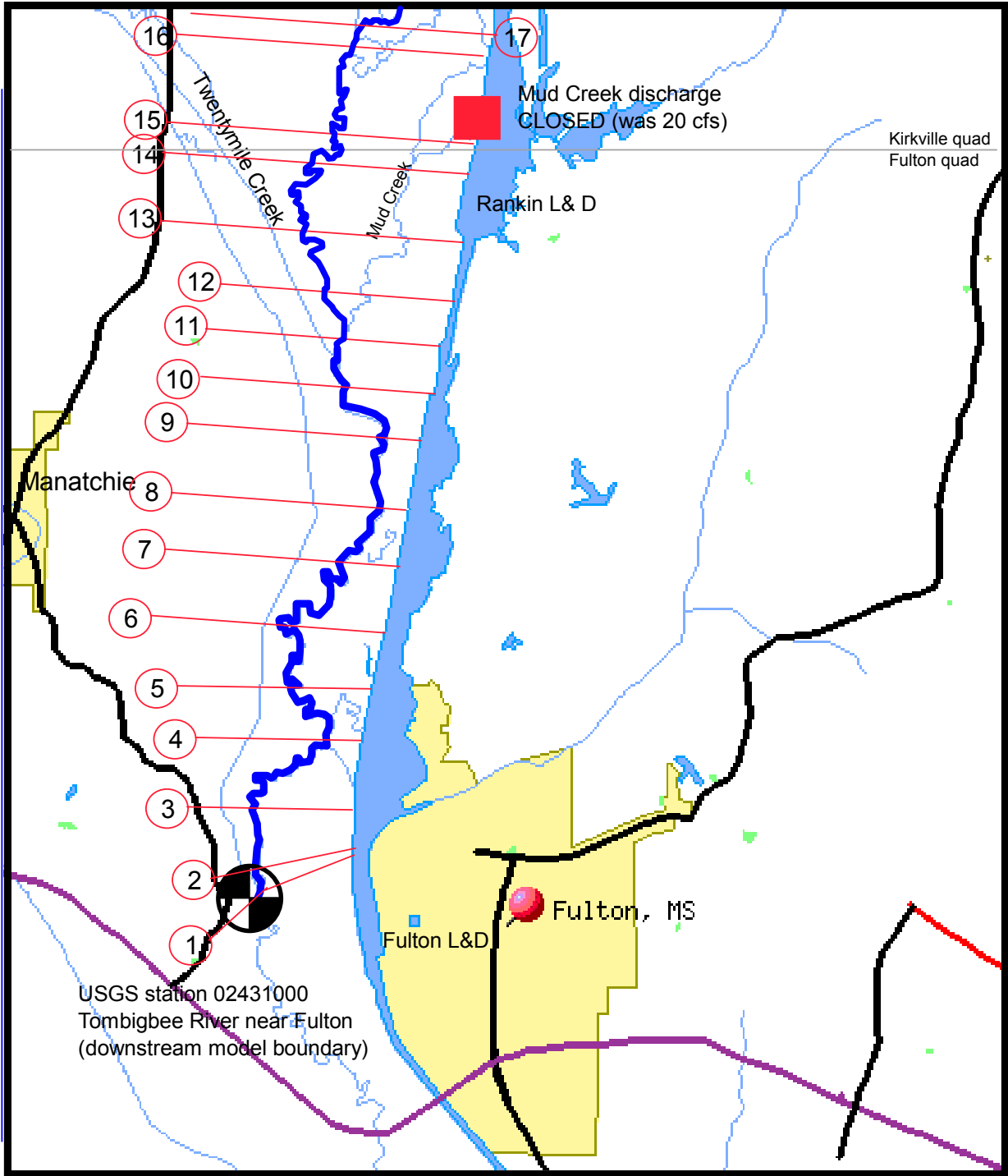
A one-dimensional model of the Tombigbee River was developed to assist in determining travel times along the river channel in the event of a chemical spill. The model extends from the Mackey's Creek outflow from the Tennessee-Tombigbee Waterway to the water intake at Fulton, Mississippi. The one dimensional mathematical model, ADYN, was used for the evaluation (Hauser, 1991). The model was developed by TVA and is accepted by MDEQ as an analysis tool.

ADYN is a one-dimensional unsteady flow model capable of generating quantitative information as wetted area, depth, velocity, flow, volumes, and has a particle tracking feature which allows travel times to be estimated, assuming that river flow is the dominant transport mechanism. The ADYN model does not perform dispersion calculations or take wind-related parameters such as fetch into consideration in the particle tracking routine.

Arriving at a travel time from the plot usually involves reading the data from two locations and taking the difference of the two travel time values.



**Figure 8: Cross-Section Locations Along Tombigbee River, Upstream Half of Model**



**Figure 9: Cross-Section Locations Along Tombigbee River, Downstream Half of Model**

<b>Tombigbee River cross section locations</b>		
<b>Section Number on map</b>	<b>River Mile (Mile 0 = dam)</b>	<b>Comment</b>
1	0.00	Downstream model boundary, Fulton stream gage
2	0.426	
3	1.112	
4	2.759	
5	3.943	
6	4.985	
7	6.595	
8	7.201	
9	8.034	
10	8.801	
11	9.218	
12	10.013	
13	10.941	
14	12.078	Near downstream end of Rankin Lock/Beaver Lake
15	12.987	Begin Kirkville quad
16	14.369	
17	14.786	
18	15.686	
19	16.784	
20	17.958	
21	18.943	
22	20.231	
23	21.879	
24	23.081	
25	23.555	
26	24.909	
27	25.110	Begin Fulton NE quad
28	25.470	
29	25.678	By downstream end of Montgomery Lock & Dam
30	25.892	
31	26.271	
32	26.830	
33	28.117	
34	29.008	
35	29.339	
36	30.305	
37	30.883	
38	31.489	Upstream model boundary, Mackeys Creek inflow gate

**Table 1: Listing of Cross-Section Locations in the Model**

When the location of the spill is known, one should:

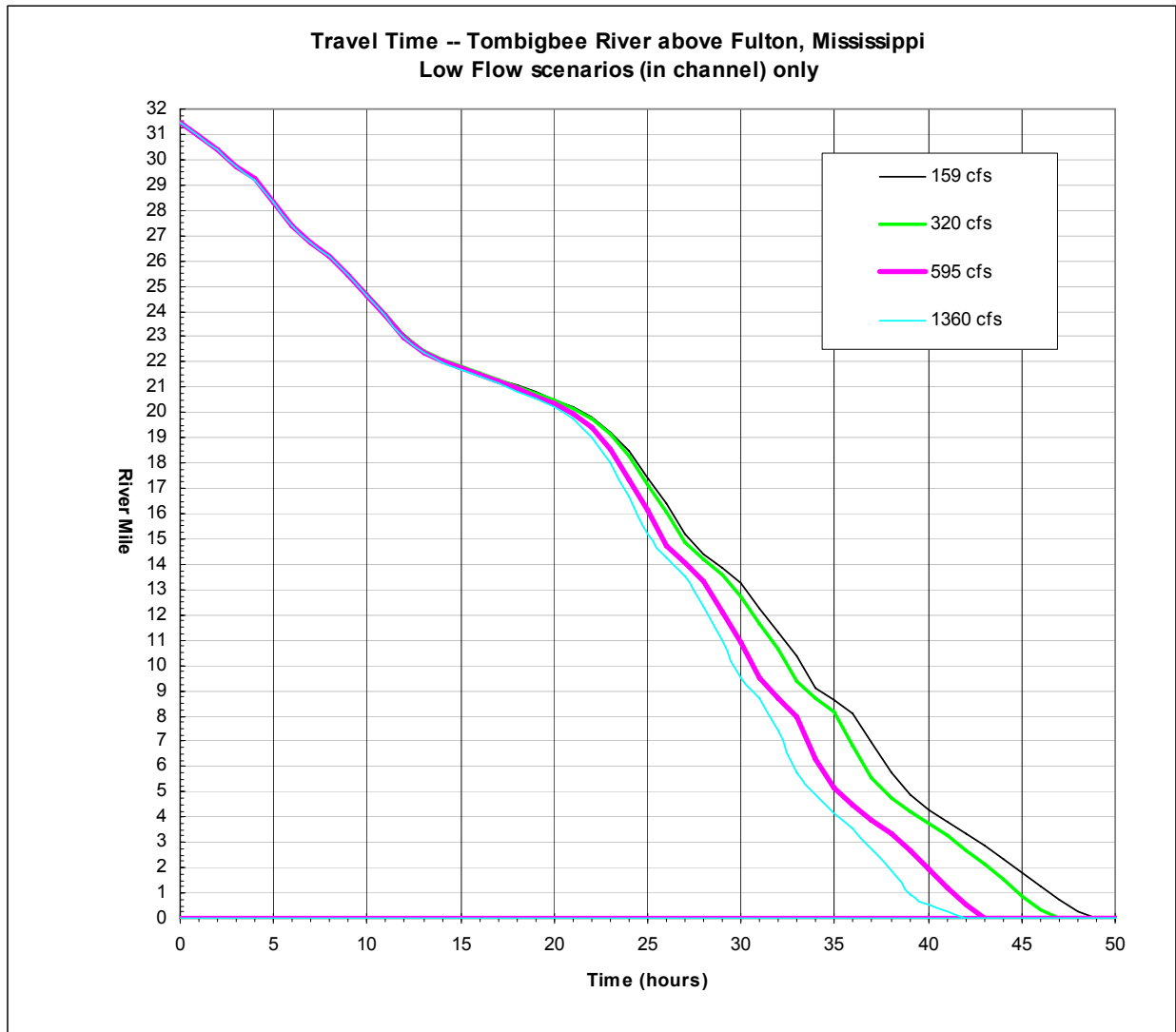
1. Locate the river mile of the spill on the appropriate chart. Assistance in determining the river mile can come from Figures 8 and 9 and Table 1.
2. Find out the last 24 hours of stream gage data from the Fulton stream gage from the Mississippi USGS web site:  
<http://ms.waterdata.usgs.gov/nwis/current/?type=flow>
3. Find the appropriate line on the travel time charts, closest to the recorded Fulton stream gage discharge value from the web site. Read the water travel time off the chart for the water intake location (assumed to be mile 0), and subtract from it the water travel time off the chart for the location of the spill.

The following example illustrates the procedure, using Figure 10.

Example: An oil spill occurs at the county road by the Marietta stream gage (cross-section 21 in the model, river mile 18.943) at 0730 hours on 03/01/2004. You find out that the current flow past the stream gage at Fulton is 595 cfs. The chart labeling in Figure 10 is based upon discharge values at the Fulton gage. To determine the water travel time, first locate the 595 cfs line on Figure 10 (the pink line). Once the 595 cfs line has been located, find the river mile of the origin of the spill on the vertical axis. In this example, the spill occurred at river mile 18.943, which can be rounded to river mile 19. Once the horizontal line associated with river mile 19 is located, the point where that line crosses the (pink) 595 cfs line can be found. Next, draw a vertical line from this point of intersection down to the horizontal axis, to determine a time in hours. Here, river mile 19 coincides with 22 hours on the 595 cfs line. The same procedure should now be completed for river mile 0 (the intake), which gives a result of 42.5 hours. The water travel time to the Fulton water intake (mile 0) at 595 cfs can now be calculated by subtracting the time at river mile 19 from the time at river mile 0 = (42.5 hours – 22 hours) = 20.5 hours. Thus, for a spill at river mile 19 when the river flow is 595 cfs, the spilled contaminant will reach the intake 20.5 hours after the spill occurred.



A complete description of the methodology used to produce the above calculation is presented in the accompanying report, *Determination of Contaminant Travel Time on Tombigbee River above Fulton, Mississippi*.



**Figure 10: Low Flow Travel Time Chart, Tombigbee River Above Fulton, MS**

## **SOURCES OF INFORMATION**

Mississippi Department of Environmental Quality – Office of Pollution Control, State of Mississippi Water Quality Criteria for Intrastate, Interstate and Coastal Waters. Jackson, Mississippi: 1995.

USDA, 1997 Census of Agriculture, Volume 1 Geographic Area Series, “Table 1. County Summary Highlights: 1997.”

USDA, National Agricultural Statistics Service, Agricultural Statistics 2003. United States Government Printing Office, Washington: 2003.

USDA, National Agricultural Statistics Service, Agricultural Chemical Usage – 1998 Field Crops Summary. United States Government Printing Office, Washington: 1999.

USDA, National Agricultural Statistics Service, Agricultural Chemical Usage – 2001 Field Crops Summary. United States Government Printing Office, Washington: 2002.

USDA, National Agricultural Statistics Service, Agricultural Chemical Usage – 2002 Field Crops Summary. United States Government Printing Office, Washington: 2003.

USDA, Soil Conservation Service, Soil Survey of Itawamba County, Mississippi. 1979.

## **INTERNET SOURCES OF INFORMATION**

<http://www.rtknet.org/rtkdata.html>

<http://www.deq.state.ms.us>

[http://www.epa.gov/enviro/index\\_java.html](http://www.epa.gov/enviro/index_java.html)

## **Appendix A**

### **Potential Sources of Contamination**

#### **Water Quality and Water Supply Intake Information**

## **List of Acronyms**

<b>BRS</b>	Biennial Reporting System
<b>CERCLIS</b>	Comprehensive Environmental Response, Compensation, and Liability Act Information System
<b>NPDES</b>	National Pollution Discharge Elimination System
<b>NPL</b>	National Priorities List
<b>RCRA</b>	Resource Conservation and Recovery Act
<b>SIC</b>	Standard Industrial Code
<b>TRI</b>	Toxic Release Inventory
<b>UST</b>	Underground Storage Tank

## **Sources of Information**

All information obtained for Fulton, MS, in the source water assessment project has been provided by the Mississippi Department of Environmental Quality; the Tennessee Valley Authority; Envirofacts, an Internet-accessed Environmental Protection Agency database, which provides the public with direct access to environmental information; and the Community Right-to-Know Act database, which is administered by the Office of Management and Budget (OMB) and the Unison Institute. The Internet addresses for these databases are listed on page 16 of this report.

## INDEX TO APPENDIX A

Site	Distance from Intake	Description	Page
9	Intake	Northeast Mississippi Regional Water Supply District	A-3
10	0.9 miles upstream	Peppertown Landing Boat Ramp	A-4
1	5.6 miles upstream	Jamie Whitten Park Boat Ramp	A-5
2	5.7 miles upstream	Midway Marina	A-6
5	11.4 miles upstream	Boat Ramp (Unnamed)	A-7
3	11.9 miles upstream	Bridge over John Rankin Highway	A-8
11	11.9 miles upstream	Bridge over US-78	A-9
4	12.8 miles upstream	Bridge over Beaver Lake Road	A-10
12	13.4 miles upstream	Bridge over SR-371	A-11
13	13.9 miles upstream	Bridge over SR-371	A-12
7	14.9 miles upstream	Walker's Levee Boat Ramp	A-13
8	16.3 miles upstream	Family Grocery	A-14
14	17.3 miles upstream	Bridge over Church Road	A-15
17	19.3 miles upstream	Bridge over Palestine Road	A-16
16	20.0 miles upstream	Bridge over Donivan Road	A-17
6	20.1 miles upstream	Boat Ramp (Unnamed)	A-18
15	20.1 miles upstream	Bridge over Boat Ramp Road	A-19
18	20.5 miles upstream	Bridge over Crabb Road	A-20
19	6.9 miles upstream	Fulton POTW, West Central	A-21
20	6.1 miles upstream	Tombigbee Lumbar Company	A-22

## Northeast MS Regional Water Supply District

### Water Supply

Location on Stream: NA  
Distance from Intake: 0  
Latitude: 34.259528  
Longitude: -88.448722  
Address: Hwy 178  
City: Fulton  
State: MS  
Zip: 38843  
County: Itawamba  
Telephone: 662-862-7260  
Contact: Frank Maples  
Title: Unknown  
SIC: 4941  
Type of Facility: WATER SUPPLY  
NPDES: MS0046540  
Number of Outfalls: 1  
Permitted Contaminants: pH, TSS  
Facility Reference System ID: 110015494160

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### Toxic Release Inventory (TRI) Information

TRI ID: NA

---

### Hazardous Waste Facilities (RCRA, BRS) Information

Hazardous Waste Handler ID: NA  
Hazardous Waste Handler Type: NA

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### Comprehensive Environmental Response, Compensation, and Liability Act "Super Fund" Information (CERCLIS)

CERCLIS: NA  
NPL Status: NA

---

NA - Not Applicable

## Peppertown Landing Boat Ramp

### Boat Ramp

**Location on Stream:** 0.9 upstream on the Tombigbee River  
**Distance from Intake:** 0.9 miles upstream  
**Latitude:** 34.26422  
**Longitude:** -88.44546  
**Address:** Located near water supply on SR-178  
**City:** NA  
**State:** MS  
**Zip:** NA  
**County:** Itawamba  
**Telephone:** NA  
**Contact:** NA  
**Title:** NA

---

NA - Not Applicable

## Jamie Whitten Park Boat Ramp

### Boat Ramp

**Location on Stream:** 0.7 miles on the Tennessee-Tombigbee Waterway  
to 4.9 miles on Tombigbee River

**Distance from Intake:** 5.6 miles upstream

**Latitude:** 34.2876

**Longitude:** -88.41673

**Address:** End of Boat Ramp Road, by Jamie L. Whitten Historical Center

**City:** Fulton

**State:** MS

**Zip:** 38843

**County:** Itawamba

**Telephone:** NA

**Contact:** NA

**Title:** NA

---

NA - Not Applicable



## Midway Marina

### Storage Tank

**Location on Stream:** 0.8 miles upstream on the Tennessee-Tombigbee Waterway  
to 4.9 miles on the Tombigbee River

**Distance from Intake:** 5.7 miles upstream

**Latitude:** 34.29823

**Longitude:** -88.41608

**Address:** 641 Joe Wheeler Brown Rd

**City:** Fulton

**State:** MS

**Zip:** 38843

**County:** Itawamba

**Telephone:** 662-862-7711

**Contact:** Guy or Erin Conner

**Title:** Unknown

---

### Storage Tank Information

**Tank Type:** UST

**Number of Regulated Tanks (UST)** 2

**Number of Tanks (AST):** 0

**Potential Contaminants:** Gasoline, Diesel

**Facility Sequence Number:** NA

**NAICS:** 713930

**Type of Facility:** Marinas

---

NA - Not Applicable

## Boat Ramp (Unnamed)

### Boat Ramp

**Location on Stream:** 6.5 miles of the Tennessee-Tombigbee Waterway to the Tombigbee River  
**Distance from Intake:** 11.4 miles upstream  
**Latitude:** 34.38188  
**Longitude:** -88.3975  
**Address:** Located at end of Quinn Drive into Tennessee-Tombigbee Waterway  
**City:** NA  
**State:** MS  
**Zip:** NA  
**County:** Itawamba  
**Telephone:** NA  
**Contact:** NA  
**Title:** NA

---

NA - Not Applicable

## Bridge - John Rankin Hwy

### Bridge

**Location on Stream:** 7.0 miles of the Tennessee-Tombigbee Waterway  
to 4.9 miles on the Tombigbee River

**Distance from Intake:** 11.9 miles upstream

**Latitude:** 34.38165

**Longitude:** -88.387

**Address:** John Rankin Hwy over Beaver Lake

**City:** NA

**State:** MS

**Zip:** NA

**County:** Itawamba

**Telephone:** 662-842-7381

**Contact:** Carson Neal

**Title:** County Engineer (Cook Coggin Engineers, Inc. in Tupelo)

---

NA - Not Applicable

## Bridge - US 78

### Bridge

**Location on Stream:** 7.0 miles of the Tennessee-Tombigbee Waterway  
to 4.9 miles on the Tombigbee River

**Distance from Intake:** 11.9 miles upstream

**Latitude:** 34.38165

**Longitude:** -88.387

**Address:** US 78 over Tombigbee River

**City:** NA

**State:** MS

**Zip:** NA

**County:** Itawamba

**Telephone:** 662-842-7381

**Contact:** Carson Neal

**Title:** County Engineer (Cook Coggin Engineers, Inc. in Tupelo)

---

NA - Not Applicable

## Bridge - Beaver Lake Road

### Bridge

**Location on Stream:** 9.2 miles on the Twentymile Fulton Canal to 1.0 miles on the Tombigbee River

**Distance from Intake:** 12.8 miles upstream

**Latitude:** 34.38517

**Longitude:** -88.4966

**Address:** Beaver Lake Road over Beaver Lake

**City:** NA

**State:** MS

**Zip:** NA

**County:** Itawamba

**Telephone:** 662-842-7381

**Contact:** Carson Neal

**Title:** County Engineer (Cook Coggin Engineers, Inc. in Tupelo)

---

NA - Not Applicable

## Bridge - SR-371

### Bridge

**Location on Stream:** 3.3 miles on Twentymile Creek to 10.2 miles on Tombigbee River

**Distance from Intake:** 13.4 miles upstream

**Latitude:** 34.386

**Longitude:** -88.4611

**Address:** State Road 371 over Twentymile Creek

**City:** NA

**State:** MS

**Zip:** NA

**County:** Itawamba

**Telephone:** 662-842-7381

**Contact:** Carson Neal

**Title:** County Engineer (Cook Coggin Engineers, Inc. in Tupelo)

---

NA - Not Applicable

## Bridge - SR-371

### Bridge

**Location on Stream:** 1.2 miles of Unknown Creek to 2.6 miles on Twentymile Creek  
to 10.2 miles on Tombigbee River

**Distance from Intake:** 13.9 miles upstream

**Latitude:** 34.3928

**Longitude:** -88.4609

**Address:** State Road 371 over Tynes Branch

**City:** NA

**State:** MS

**Zip:** NA

**County:** Itawamba

**Telephone:** 662-842-7381

**Contact:** Carson Neal

**Title:** County Engineer (Cook Coggin Engineers, Inc. in Tupelo)

---

NA - Not Applicable

## Walker's Levee Boat Ramp

### Boat Ramp

**Location on Stream:** 10.0 miles on the Tennessee-Tombigbee Waterway  
to 4.9 miles on the Tombigbee River

**Distance from Intake:** 14.9 miles upstream

**Latitude:** 34.43251

**Longitude:** -88.40887

**Address:** Located at end of Boat Ramp Road

**City:** NA

**State:** MS

**Zip:** NA

**County:** Itawamba

**Telephone:** NA

**Contact:** NA

**Title:** NA

---

NA - Not Applicable



## Family Grocery

### Facility

**Location on Stream:** 3.5 miles of Unknown Creek to 2.6 miles on Twentymile Creek  
to 10.2 miles on Tombigbee River

**Distance from Intake:** 16.3 miles upstream

**Latitude:** 34.415

**Longitude:** -88.472028

**Address:** 10759 Hwy 371 South

**City:** Mantachie

**State:** MS

**Zip:** 38855

**County:** Itawamba

**Telephone:** 601-853-2134

**Contact:** A. Clark Thomas

**Title:** Unknown

**SIC:** 5541

**Type of Facility:** GASOLINE SERVICE STATIONS

**NPDES:** MSG120032

**Number of Outfalls:** 1

**Permitted Contaminants:** pH, O&G, Total Lead, Benzene,  
Benzene/Ethylbenzenetoluene/Xylene Combination

**Facility Reference System ID:** 110013339360

---

### Toxic Release Inventory (TRI) Information

**TRI ID:** NA

---

### Hazardous Waste Facilities (RCRA, BRS) Information

**Hazardous Waste Handler ID:** NA

**Hazardous Waste Handler Type:** NA

---

### Comprehensive Environmental Response, Compensation, and Liability Act "Super Fund" Information (CERCLIS)

**CERCLIS:** NA

**NPL Status:** NA

---

NA - Not Applicable

## Bridge - Church Road

### Bridge

**Location on Stream:** 1.8 miles on Donovan Creek to 15.4 miles on Tombigbee River

**Distance from Intake:** 17.3 miles upstream

**Latitude:** 34.4152

**Longitude:** -88.4404

**Address:** Church Road over Donovan Creek

**City:** NA

**State:** MS

**Zip:** NA

**County:** Itawamba

**Telephone:** 662-842-7381

**Contact:** Carson Neal

**Title:** County Engineer (Cook Coggin Engineers, Inc. in Tupelo)

---

NA - Not Applicable

## Bridge - Palestine Road

### Bridge

**Location on Stream:** 6.6 miles of the Tynes Branch to 2.6 miles of the Twentymile Creek  
to 10.1 miles to 10.1 miles on the Tombigbee River

**Distance from Intake:** 19.3 miles upstream

**Latitude:** 34.4296

**Longitude:** -88.5075

**Address:** Palestine Road over Tynes Branch

**City:** NA

**State:** MS

**Zip:** NA

**County:** Itawamba

**Telephone:** 662-842-7381

**Contact:** Carson Neal

**Title:** County Engineer (Cook Coggin Engineers, Inc. in Tupelo)

---

NA - Not Applicable

## Bridge - Donovan Road

### Bridge

**Location on Stream:** 4.5 miles on Donovan Creek to 15.4 miles on Tombigbee River

**Distance from Intake:** 20.0 miles upstream

**Latitude:** 34.4433

**Longitude:** -88.4695

**Address:** Donovan Road over Donovan Creek

**City:** NA

**State:** MS

**Zip:** NA

**County:** Itawamba

**Telephone:** 662-842-7381

**Contact:** Carson Neal

**Title:** County Engineer (Cook Coggin Engineers, Inc. in Tupelo)

---

NA - Not Applicable

## Boat Ramp (Unnamed)

### Boat Ramp

**Location on Stream:** 19.9 miles of the Tombigbee River  
**Distance from Intake:** 20.1 miles upstream  
**Latitude:** 34.42636  
**Longitude:** -88.42086  
**Address:** On Boat Ramp Road east of the bridge over Mackeys Creek  
**City:** NA  
**State:** MS  
**Zip:** NA  
**County:** Itawamba  
**Telephone:** NA  
**Contact:** NA  
**Title:** NA

---

NA - Not Applicable

## Bridge - Boat Ramp Road

### Bridge

**Location on Stream:** 19.9 miles on the Tombigbee River  
**Distance from Intake:** 20.1 miles upstream  
**Latitude:** 34.4263  
**Longitude:** -88.4211  
**Address:** Boat Ramp Road over Mackeys Creek  
**City:** NA  
**State:** MS  
**Zip:** NA  
**County:** Itawamba  
**Telephone:** 662-842-7381  
**Contact:** Carson Neal  
**Title:** County Engineer (Cook Coggin Engineers, Inc. in Tupelo)

---

NA - Not Applicable

## Bridge - Crabb Road

### Bridge

**Location on Stream:** 7.7 miles of the Yeager Branch to 2.6 miles on the Twentymile Creek  
to 10.2 miles on the Tombigbee River

**Distance from Intake:** 20.5 miles upstream

**Latitude:** 34.4202

**Longitude:** -88.5204

**Address:** Crabb Road over Twentymile Creek

**City:** NA

**State:** MS

**Zip:** NA

**County:** Itawamba

**Telephone:** 662-842-7381

**Contact:** Carson Neal

**Title:** County Engineer (Cook Coggin Engineers, Inc. in Tupelo)

---

NA - Not Applicable

## FULTON POTW, WEST CENTRAL

### Facility

**Location on Stream:** 2.0 miles on the Tennessee-Tombigbee Waterway to 4.9 miles on the Tombigbee River  
**Distance from Intake:** 6.9 miles upstream  
**Latitude:** 34.262  
**Longitude:** -88.42438  
**Address:** 213 West Wiygul Street  
**City:** Fulton  
**State:** MS  
**Zip:** 38843  
**County:** Itawamba  
**Telephone:** 662-862-9004  
**Contact:** Dan Pate  
**Title:** Utilities Manger  
**SIC:** 4952  
**Type of Facility:** Sewerage Systems  
**FRS ID:** 110008515268  
**NPDES:** MS0028011  
**Number of Outfalls:** 1  
**Permitted Contaminants:** BOD, pH, TSS, DO, Chlorine, Fecal Coliform  
**Facility Sequence Number:** NA

---

### Toxic Release Inverntory (TRI) Information

**TRI ID:** NA

---

### Hazardous Waste Facilities (RCRA, BRS) Information

**Hazardous Waste Handler ID:** NA  
**Hazardous Waste Handler Type:** NA

---

### Comprehensive Environmental Response, Compensation, and Liability Act "Super Fund" Information (CERCLIS)

**CERCLIS:** NA  
**NPL Status:** NA

---



## TOMBIGBEE LUMBAR COMPANY

### Facility

**Location on Stream:** 0.4 miles on Cummings Creek to 0.8 miles on the Tennessee-Tombigbee Waterway to 4.9 miles on Tombigbee River

**Distance from Intake:** 6.1 miles upstream

**Latitude:** 34.28038

**Longitude:** -88.41642

**Address:** 315 VO Tech Road

**City:** Fulton

**State:** MS

**Zip:** 38843

**County:** Itawamba

**Telephone:** 601-862-7417

**Contact:** Clinton Taylor

**Title:** Cognizant Official

**SIC:** 2421

**Type of Facility:** Sawmills and Planing Mills, General

**FRS ID:** 110002213122

**NPDES:** MS0046337

**Number of Outfalls:** 1

**Permitted Contaminants:** pH

**Facility Sequence Number:** NA

---

### Toxic Release Inventory (TRI) Information

**TRI ID:** NA

---

### Hazardous Waste Facilities (RCRA, BRS) Information

**Hazardous Waste Handler ID:** NA

**Hazardous Waste Handler Type:** NA

---

### Comprehensive Environmental Response, Compensation, and Liability Act "Super Fund" Information (CERCLIS)

**CERCLIS:** NA

**NPL Status:** NA

---

## **Appendix B**

### **Agriculture – Itawamba and Prentiss Counties**

## **AGRICULTURE ITAWAMBA COUNTY**

- Land in Farms (acres) 81,566
- Total Cropland (acres) 36,786
- Harvested Cropland (acres) 21,553

### Crops

Corn

Cotton

Hay/Alfalfa

Soybeans

Wheat

### Livestock

Beef Cows

Milk Cow

Hogs and Pigs

Sheep and Lamb

### Poultry

Layers and Pullets

Broilers

## **AGRICULTURE PRENTISS COUNTY**

- Land in Farms (acres) 88,081
- Total Cropland (acres) 51,020
- Harvested Cropland (acres) 32,330

### Crops

Corn

Cotton

Hay/Alfalfa

Soybeans

Wheat

### Livestock

Beef Cows

Milk Cow

Hogs and Pigs

Sheep and Lamb

### Poultry

Layers and Pullets

Broilers

## **AGRICULTURAL CHEMICAL USAGE IN COUNTIES IN THE SWPA**

The agricultural chemical usage estimates are based on data compiled by the National Agricultural Statistics Service from the 2002 field crops summary and the 1997 – 2003 agricultural statistics. The rates of chemical application were estimated from 1997 to 2003. The results that refer to on-farm use of herbicides and pesticides on the targeted crops of corn, wheat and hay are for the 1997 crop year. Upland cotton and soybeans are also included for rates of chemical use. Pesticide data were collected late in the growing season or after the farm operator had indicated that planned applications were completed.

### **AGRICULTURAL CHEMICAL USAGE BY CROP**

#### **Corn**

In 1997, Atrazine was reported to be the most commonly used herbicide in 1997 with Nicosulruron and Glyphosate being the next two greatest applied herbicides to corn fields. In addition, Lambda-cyhalothrin was the most widely used insecticide to planted corn acreage at this time. Table 1 shows a complete list of herbicides and insecticides applied to Mississippi corn crops in 1997.

#### **Upland Cotton**

In 2003, 100 percent of upland cotton acreage in the state of Mississippi had herbicide applications, while 94 percent of this planted acreage also had insecticide applied. 17 percent of the area was also treated with fungicide, and 95 percent had some other type of chemical applied to it. Glyphosate was reported to be the most commonly used herbicide, while the acephate was the most widely used insecticide applied. Table 2 shows a complete list of treatments applied to Mississippi cotton crops in 2003.

### **Hay/Alfalfa**

Across Mississippi 648,809 acres of hay/alfalfa was planted. Seven percent of hay/alfalfa growers used the herbicide 2,4-D. This was the most widely used herbicide with 7 percent of acres being treated. The most common used insecticide was carbaryl. A complete list of chemicals applied in 1997 to hay and alfalfa crops in the state of Mississippi is displayed in Table 3.

### **Soybeans**

An average of 99 percent of Mississippi soybean fields had herbicide applied to it in 2000, with five percent also treated with insecticides. Less than one percent of the soybean acreage had fungicides applied to it. The most widely applied herbicide, by far, is glyphosate, which was applied to 78 percent of the acreage. A complete listing of herbicides, insecticides and fungicides used in the state of Mississippi is listed in Table 4.

### **Wheat**

In 1997, there was a total of 155,049 acres planted with wheat in the state of Mississippi. 38 percent of that was treated with the herbicide 2,4-D This was the most widely used herbicide in the state with Thifensulfuron and Tribenuron being the next two greatest applied herbicides. There was not much insecticides used on wheat. Methyl parathion, an insecticide was the most widely used, treating 10 percent of the wheat crops. Mancozeb was used as fungicide on 22 percent of the wheat. A complete list of herbicides, insecticides and fungicides can be found in Table 5.

---

**Active Ingredients - Corn**

---

Herbicides:	Insecticides:
2,4-D	Carbaryl
Acetochlor	Carbofuran
Atrazine	Chlorpyrifos
Bromoxynil	Esfenvalerate
Cyanazine	Lambda-cyhalothrin
Dicamba	Methomyl
Dimethenamid	Methyl parathion
Flumetsulam	Permethrin
Glyphosate	Phorate
Imazethapyr	Tefluthrin
Metolachlor	Terbufos
Nicosulfuron	
Paraquat	
Pendimethalin	
Primisulfuron	
Prosulfuron	

---

**Table 1. List of Herbicides, Insecticides and Fungicides Used to Treat Corn Crops, Mississippi, 1997**

---

**Active Ingredients - Cotton**

---

Herbicides:	Insecticides:	Fungicides:
2,4-D	Acephate	Etridiazole
Carfentrazone-ethyl	Acetamiprid	Mefenoxam
Cyanazine	Aldicarb	Metalaxyl
Diuron	Cyfluthrin	PCNB
Fluometuron	Cypermethrin	
Glyphosate	Dicrotophos	<b>Other Chemicals:</b>
Linuron	Esfenvalerate	Bacillus cereus
MSMA	Imidacloprid	Cyclanilide
Norflurazon	Indoxacarb	Ethephon
Pendimethalin	Lambda-cyhalothrin	Mepiquat chloride
Prometryn	Malathion	Paraquat
Pyrithiobac-sodium	Triamethoxam	Sodium chlorate
Trifluralin	Zeta-cypermethrin	Thidiazuron
		Tribufos

---

**Table 2. List of Herbicides, Insecticides and Fungicides Used to Treat Upland Cotton Crops, Mississippi, 2003**

<b>Active Ingredients - Hay/Alfalfa</b>	
<b>Herbicides:</b>	<b>Insecticides:</b>
2,4-D	Carbaryl
Dicamba	Malathion
Glyphosate	

**Table 3. List of Herbicides, Insecticides and Fungicides Used to Treat Hay/Alfalfa Crops, Mississippi, 1997**

<b>Active Ingredients - Soybean</b>		
<b>Herbicides:</b>	<b>Insecticides:</b>	<b>Fungicides:</b>
2,4-D	Benzoic acid	Azoxystrobin
Acifluorfen	Lambda-cyhalothrin	
Chlorimuron-ethyl	Methyl parathion	
Cloransulam-methyl		
Glyphosate		
Imazaquin		
Pendimethalin		
Trifluralin		

**Table 4. List of Herbicides, Insecticides and Fungicides Used to Treat Soybean Crops, Mississippi, 2002**

<b>Active Ingredients - Wheat</b>		
<b>Herbicides:</b>	<b>Insecticides:</b>	<b>Fungicides:</b>
2,4-D	Dimethoate	Mancozeb
Dicamba	Lambda-cyhalothrin	Propiconazole
Diclofop	Methyl parathion	Triadimefon
Prosulfuron		
Thifensulfuron		
Tribenuron		

**Table 5. List of Herbicides, Insecticides and Fungicides Used to Treat Wheat Crops, Mississippi, 1997**

## **Appendix C**

### **Documentation and Instructions**

#### **ArcView Compact Disc**



## ArcView Information

This project uses ArcView version 3.2.  
To start ArcView project, select fulton.apr

### Workspace Directories:

- Drg                      Digital Raster Graphic
- Fulton                  Data Layers
  - Buf\_1mi                1 mile buffer from identified stream
  - Buf\_1000              1000 Foot buffer from identified stream
  - Lulc                    Land Use / Land Cover
  - Points                 Potential Pollution Sources
  - Quads                 7 1/2 minute quadrangle boundaries
  - Railrds                Railroads
  - Roads                 Roads
  - Streams                Streams
- Html                    Web pages of the Potential Pollution Sources
- Images                 Contains to TVA logo
- Metadata              Information about the geographic data
- Plots                    Digital files of the maps
- Scripts                 hotlink script which links the html files to the points
- Tables                 chart and spreadsheet